

STATE OF UTAH
FAIRPARK GRAND BUILDING BOILER REPLACEMENT
DFCM PROJECT NO. 07190370
SLC, UTAH

DFCM DESIGN AND CODE CRITERIA

(Fee A.E: Attach and fill in applicable data for each drawing submittal)

Applicable Codes:

International Building Code
Planning & Design Criteria to Prevent
Architectural Barriers for the Aged and
the Physically Handicapped.

Year
2006

International Mechanical Code
International Plumbing Code
ASHRAE/IES Energy Code
National Electrical Code

Year
2006
2006
2004
2005

A. Occupancy and Group :

Change in Use : Yes No ☒

Mixed Occupancy : Yes No ☒

B. Type of Construction (Circle)

I
F.R.

II
F.R.

III
1 HR.

IV
B

V
1 HR.

VI
N

VII
H.T.

VIII
1 HR.

IX
N

X
H.T.

XI
1 HR.

XII
N

N.A.

C. Location on Property :

F.R. Ext. Walls (Hrs.): N.R.

Ext. Wall Opening(s) Protection (Hrs.): N.R.

Each Occupancy

D. Occupancy separation required (Hrs.):

Sprinklered: Indicate Yes or No

Stories : 1 or multiple

a. Actual Area² (ft) EXISTING

b. Basic allowable area :

c. Allowable Area Increase
due to side yards: N

d. Side yard area increase (ft): N.A.
Accumulative sub-total (b+d):
Sprinkler: area increase (x3 single)
(x 2 multi)

e. Total Allowable Area for a single
story: N.A.
x 2 for multi-story building:

f. Ratio = a/e
(Actual divided by allowable)

E. Fire-Resistive Requirements

N.A.

(Hrs.): (1 Hr., 2Hr., 3Hr., 4Hr., N. H.T.)

Exterior Bearing Walls:

Interior Bearing Walls:

Exterior Non-bearing Walls:

Structural Frame:

Partitions - Permanent:

(OCCUPANCY SEPARATION - N.A.)

Floors - Ceiling Floors

Roofs - Ceiling Roofs

Exterior Doors and Windows

Shaft Enclosures

State of Utah—Department of Administrative Services


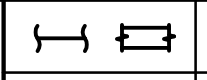

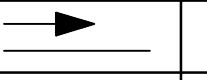
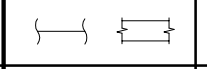
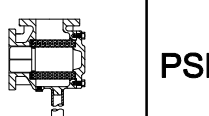
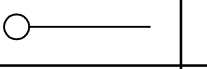
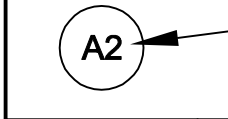
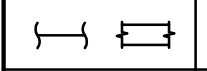

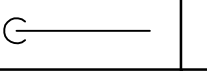
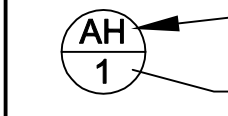


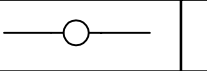

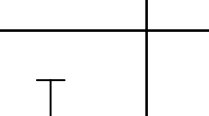
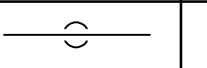



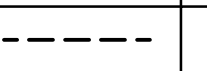
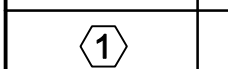
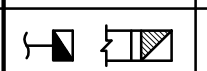
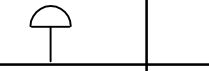
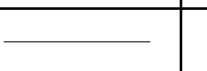
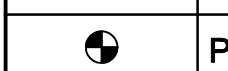
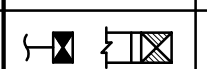
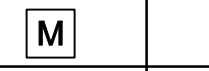
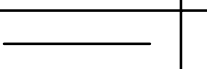
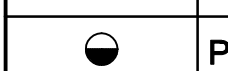
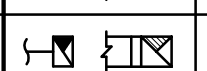

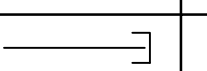
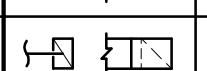
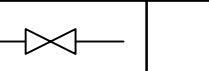
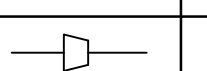
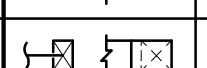
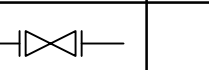

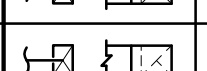
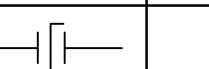
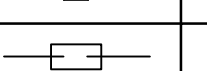
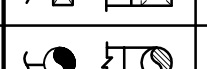
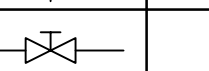
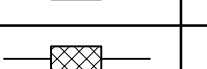
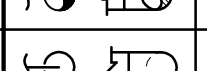
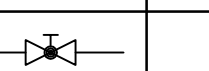
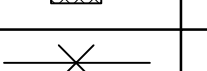
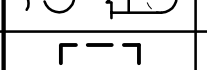
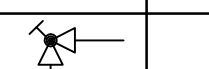
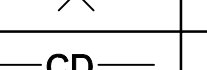
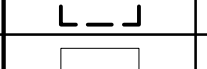

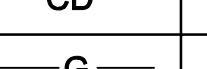

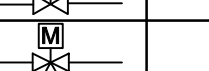

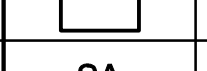
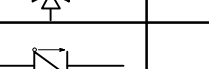
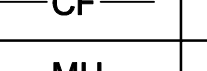
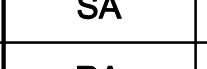
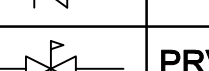
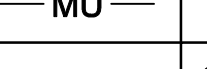
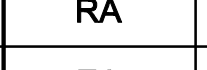

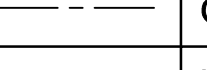

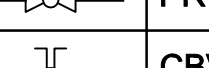
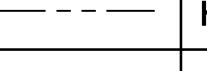
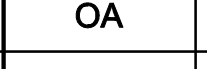
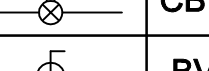
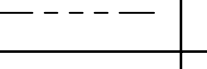
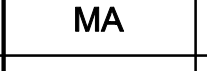

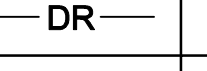

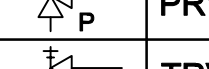
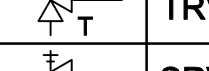
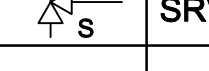
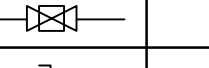
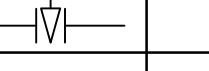
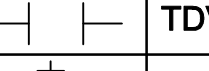
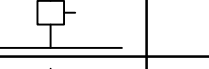
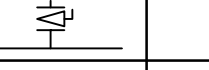
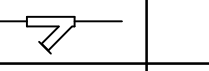
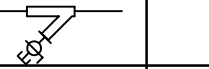
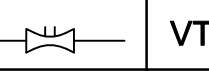
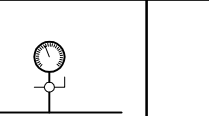
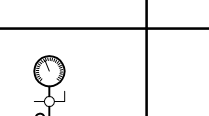

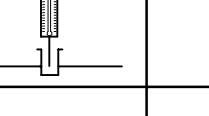
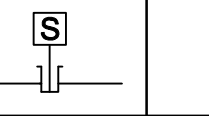
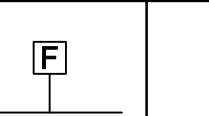
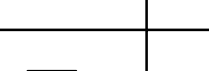

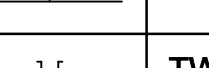
**DIVISION OF FACILITIES CONSTRUCTION
AND MANAGEMENT**

4110 State Office Building / Salt Lake City, Utah 84114 / 538-3018

DRAWING INDEX:	
G001	- COVER SHEET
M001	- GENERAL NOTES & LEGENDS
MD101	- DEMOLITION BOILER ROOM AREA PLAN
MD401	- LARGE SCALE DEMOLITION BOILER AND SECTION PLAN
ME401	- LARGE SCALE BOILER ROOM PLAN
ME501	- MECHANICAL DETAILS
ME502	- MECHANICAL DETAILS
ME601	- MECHANICAL SCHEDULES
ME701	- MECHANICAL FLOW SHEET

MECHANICAL ENGINEER
WHW ENGINEERING, INC.
1354 EAST 3300 SOUTH
SUITE 200
SALT LAKE CITY, UTAH 84106
PHONE: (801) 466-4021 FAX: (801) 466-8536

WHW
ENGINEERING INC.
PROFESSIONAL MECHANICAL ENGINEERING
1354 East 3300 South Suite 200
SALT LAKE CITY, UTAH 84106
(801)466-4021, FAX 466-8536
EMAIL: excellence@whw-engineering.com

MECHANICAL LEGEND											
SYMBOL	ABR.	DESCRIPTION	SYMBOL	ABR.	DESCRIPTION	SYMBOL	ABR.	DESCRIPTION	SYMBOL	ABR.	DESCRIPTION
GENERAL TERMINOLOGY			AIR SIDE			WET SIDE			WET SIDE CONT		
		SECTION LETTER DESIGNATION			EXISTING AIR DUCT TO BE REMOVED			PUMP			PITCH DOWN
		SECTION DRAWN ON THIS SHEET			EXISTING AIR DUCT TO REMAIN		PSD	PUMP SUCTION DIFFUSER			ELBOW UP
		DETAIL NUMBER DESIGNATION CORRESPONDING WITH GRID LOCATION			NEW AIR DUCT			UNION			ELBOW DOWN
		MECHANICAL EQUIPMENT DESIGNATION			SUPPLY AIR DIFFUSER			MANUAL ACTUATOR (BALL, BUTTERFLY, NEEDLE, ETC. VALVES)			TEE UP
		EQUIPMENT ITEM DESIGNATION			RETURN AIR, FRESH AIR, AND TRANSFER AIR			MANUAL ACTUATOR (GATE, GLOBE, S&D, OS&Y, ETC. VALVES)			TEE DOWN
		REVISION DESIGNATOR AND NUMBER			CEILING MOUNTED EXHAUST FAN OR EXHAUST GRILLE						EXISTING PIPING TO REMAIN
		KEY NOTE DESIGNATOR AND NUMBER			RETURN OR OUTSIDE AIR DUCT UP						NEW PIPING
	POC	POINT OF CONNECTION			SUPPLY DUCT UP			PNEUMATIC DIAPHRAGM ACTUATOR			PIPE CAP OR PLUG
	POR	POINT OF REMOVAL			EXHAUST AIR INTAKE UP			ELECTRIC MOTOR ACTUATOR			CONCENTRIC REDUCER
AFF		ABOVE FINISHED FLOOR			RETURN OR OUTSIDE AIR DUCT DOWN			SOLENOID ACTUATOR			ECCENTRIC REDUCER
AP		ACCESS PANEL			SUPPLY DUCT DOWN			THREADED OR SWEAT VALVE CONNECTION			EXPANSION JOINT
CL		CENTER LINE ELEVATION			EXHAUST DUCT DOWN			FLANGED VALVE CONNECTION			FLEXIBLE CONNECTION
INV. ELEV.		INVERT ELEVATION			ROUND DUCT UP			BUTTERFLY VALVE			ANCHOR POINT
GC		GENERAL CONTRACTOR			ROUND DUCT DOWN			GATE VALVE			CONDENSATE DRAIN
MC		MECHANICAL CONTRACTOR			EXISTING EQUIPMENT TO BE REMOVED			GLOBE VALVE - STRAIGHT PATTERN			NATURAL GAS PIPING
CC		CONTROL CONTRACTOR			EXISTING EQUIPMENT TO REMAIN			GLOBE VALVE - ANGLE PATTERN			CHEMICAL FEED LINE
EC		ELECTRICAL CONTRACTOR			NEW EQUIPMENT			MOTORIZED 2-WAY CONTROL VALVE			MAKE-UP WATER LINE
FPC		FIRE PROTECTION CONTROL		SA	SUPPLY AIR			MOTORIZED 3-WAY CONTROL VALVE		CW	CULINARY COLD WATER
NIC		NOT IN CONTRACT		RA	RETURN AIR			CHECK VALVE		HW	CULINARY HOT WATER
NTS		NOT TO SCALE		EA	EXHAUST AIR		PRV	PRESSURE REDUCING VALVE			RECIRCULATED CULINARY HOT WATER
C		COMMON		OA	OUTSIDE AIR		PRV	PRESSURE REDUCING VALVE W/ CHECK		DR	EQUIPMENT DRAIN
NC		NORMALLY CLOSED		MA	MIXED AIR		CBV	CIRCUIT BALANCING VALVE		HWS	HEATING WATER SUPPLY
NO		NORMALLY OPEN		FA	FRESH AIR		BV	BALL VALVE		HWR	HEATING WATER RETURN
				RF	RELIEF AIR		PRV	PRESSURE RELIEF VALVE			
							TRV	THERMAL RELIEF VALVE			
							SRV	SAFETY RELIEF VALE			
								PLUG VALVE			
								NEEDLE VALVE			
							TDV	TRIPLE DUTY VALVE			
								AUTOMATIC AIR VENT			
								MANUAL AIR VENT			
								STRAINER			
								STRAINER W/ PLUGGED BLOW OFF			
							VTI	VENTURI			
								PRESSURE GAUGE AND GAUGE COCK - WATER			
								PRESSURE GAUGE AND GAUGE COCK - STEAM			
								THERMOMETER AND THERMOWELL			
								WATER TEMPERATURE SENSOR AND THERMOWELL			
								FLOW SWITCH			
							PS	PRESSURE SWITCH			
							TW	THERMOWELL			
								PRESSURE AND TEMPERATURE TAP			
								DIRECTION OF FLOW			

GENERAL NOTES:

- G-1

MECHANICAL INFORMATION IS NOT LIMITED TO THE MECHANICAL DRAWINGS. CONTRACTOR SHALL BE RESPONSIBLE FOR INFORMATION ON ALL OTHER CONSTRUCTION DOCUMENTS INCLUDING DRAWINGS BY OTHER DISCIPLINES AND SPECIFICATIONS.
- A

EACH DRAWING SHEET AND THE SPECIFICATIONS HAVE BEEN PREPARED TO SUPPLEMENT EACH OTHER AND THEY SHALL BE INTERPRETED AS AN INTEGRAL UNIT WITH ITEMS SHOWN AND NOTED ON ONE AND NOT THE OTHER BEING FURNISHED AND INSTALLED AS THOUGH SHOWN AND CALLED OUT IN ALL PLACES. ITEMS IN SPECIFICATIONS OR DRAWINGS LISTED WHICH ARE DIFFERING IN EFFICIENCY OR QUALITY SHALL BE HELD TO THE GREATEST OF: EFFICIENCY, QUALITY OR GOVERNING CODE.
- B

THE CONTRACTOR WILL BE HELD RESPONSIBLE FOR THE INSTALLATION OF THE SYSTEMS ACCORDING TO THE TRUE INTENT AND MEANING OF THE CONTRACT DOCUMENTS.
- C

THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT WITH PROPER SERVICE ACCESS AND CLEARANCES ACCORDING TO MANUFACTURERS RECOMMENDATIONS. THE CONTRACTOR SHALL REVIEW SUPPLIERS BID PACKAGES FOR COMPLETENESS AND COMPLIANCE TO THE SPECIFICATIONS, SCHEDULES, AND DESIGN INTENT (ALL EQUIPMENT AND METHODS). THE CONTRACTOR SHALL REMOVE AND REINSTALL CORRECTLY AT HIS OWN EXPENSE ANY EQUIPMENT NOT IN COMPLIANCE.
- D

THE CONTRACTOR SHALL CONSULT MANUFACTURERS INSTALLATION INSTRUCTIONS FOR SIZES, METHODS, ACCESSORIES, AND CLEARANCES IN SPACE AVAILABLE PRIOR TO BIDDING PROJECT.
- E

ANYTHING NOT CLEAR OR IN CONFLICT WILL BE EXPLAINED BY MAKING APPLICATION TO THE ENGINEER IN WRITING.
- G-2

ANY AND ALL ALTERATIONS TO THE SYSTEM SHOWN SHALL BE THE RESPONSIBILITY OF THIS CONTRACTOR. ARCHITECT SHALL BE NOTIFIED IN WRITING PRIOR TO CHANGES.
- G-3

CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND LOCATIONS.
- G-4

THE WORKING DRAWINGS ARE DIAGRAMMATIC. THEY DO NOT SHOW EVERY OFFSET, BEND, OR ELBOW NECESSARY FOR THE COMPLETE INSTALLATION IN THE SPACE PROVIDED. ALL LOCATIONS FOR MECHANICAL EQUIPMENT SHALL BE FIELD VERIFIED AND COORDINATED WITH ALL DRAWINGS. THE CONTRACTOR SHALL PROVIDE OR COORDINATE WITH THE GENERAL CONTRACTOR PROVISIONS FOR BLOCKOUTS OR CORE DRILLS THROUGH STRUCTURE.
- G-5

THE INSTRUCTION TO "PROVIDE" ALSO INCLUDES INSTALLATION.
- G-6

MECHANICAL CONTRACTOR SHALL PROVIDE AND INSTALL SMOKE AND FIRE DAMPERS AS REQUIRED BY LOCAL CODES AND AUTHORITIES.
- G-7

SHEET METAL DUCT SIZES SHOWN ON DRAWINGS ARE FREE AREA DIMENSIONS.
- G-8

PROVIDE TURNING VANES IN ALL ELBOWS OF RECTANGULAR DUCT.
- G-9

THE CONTRACTOR SHALL ASSUME ALL RESPONSIBILITY IN HANDLING AND DISPOSING OF REFRIGERANTS, OILS, ETC. ALL SUCH MATERIALS SHALL BE HANDLED, DISPOSED, AND USED IN ACCORDANCE WITH ALL LOCAL, STATE, AND FEDERAL LAWS.
- G-10

THE MECHANICAL CONTRACTOR SHALL VERIFY MOTOR VOLTAGES WITH THE ELECTRICAL DRAWING BEFORE ORDERING MOTORIZED EQUIPMENT AND CONTROLS.
- G-11

C.F.M. LISTED IS ACTUAL AIR.
- G-12

SUPPLIERS SHALL REVIEW ALL DRAWINGS AND THE SPECIFICATIONS PRIOR TO SUBMITTING PRICES TO THE CONTRACTOR. ALL QUESTIONS AND DISCREPANCIES SHALL BE BROUGHT TO THE ENGINEERS ATTENTION PRIOR TO BIDDING.
- G-13

CONTRACTOR SHALL THOROUGHLY REVIEW AND SIGN SUBMITTALS FOR COMPLETENESS AND COMPLIANCE TO THE SPECIFICATIONS PRIOR TO ENGINEERS REVIEW. SUPPLIERS SHALL HIGHLIGHT OR MARK ALL INFORMATION REQUIRED TO SHOW COMPLIANCE TO THE SPECIFICATIONS. ALL REQUESTED EXCEPTIONS TO THE SPECIFICATIONS, OR SCHEDULES SHALL BE CLEARLY NOTED AND EXPLAINED. SUBMITTAL REVIEW AND ACCEPTANCE IS FOR DESIGN CONCEPT ONLY, AND DOES NOT AT ANY TIME RELIEVE THE CONTRACTOR OF RESPONSIBILITY TO MEET SPECIFICATIONS, CAPACITIES, OR DESIGN INTENT.
- G-14

ALL MECHANICAL SHALL BE INSTALLED AND CONFORM TO THE 2006 EDITION OF THE IMC WITH UTAH ANNOTATIONS AND LOCAL AUTHORITY REQUIREMENTS.
- G-15

THIS CONTRACTOR SHALL BE RESPONSIBLE FOR THE DRAINING DOWN AND RE-FILLING OF ALL SYSTEMS NECESSARY TO COMPLETE THE WORK OUTLINED BY THIS PROJECT. THIS INCLUDES PROVIDING THE REQUIRED CHEMICAL TREATMENT WHEN RE-FILLING THE SYSTEM.

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FAIRPARK GRAND
BUILDING BOILER
REPLACEMENT

DFCM No. 07190370

SALT LAKE CITY, Utah

MARK	DATE	REVISION

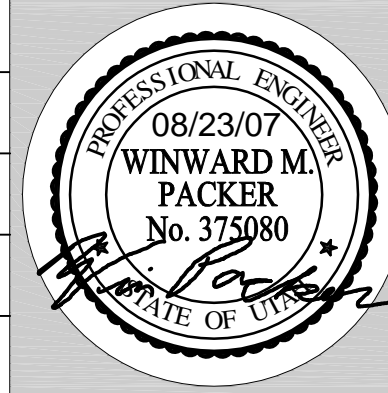
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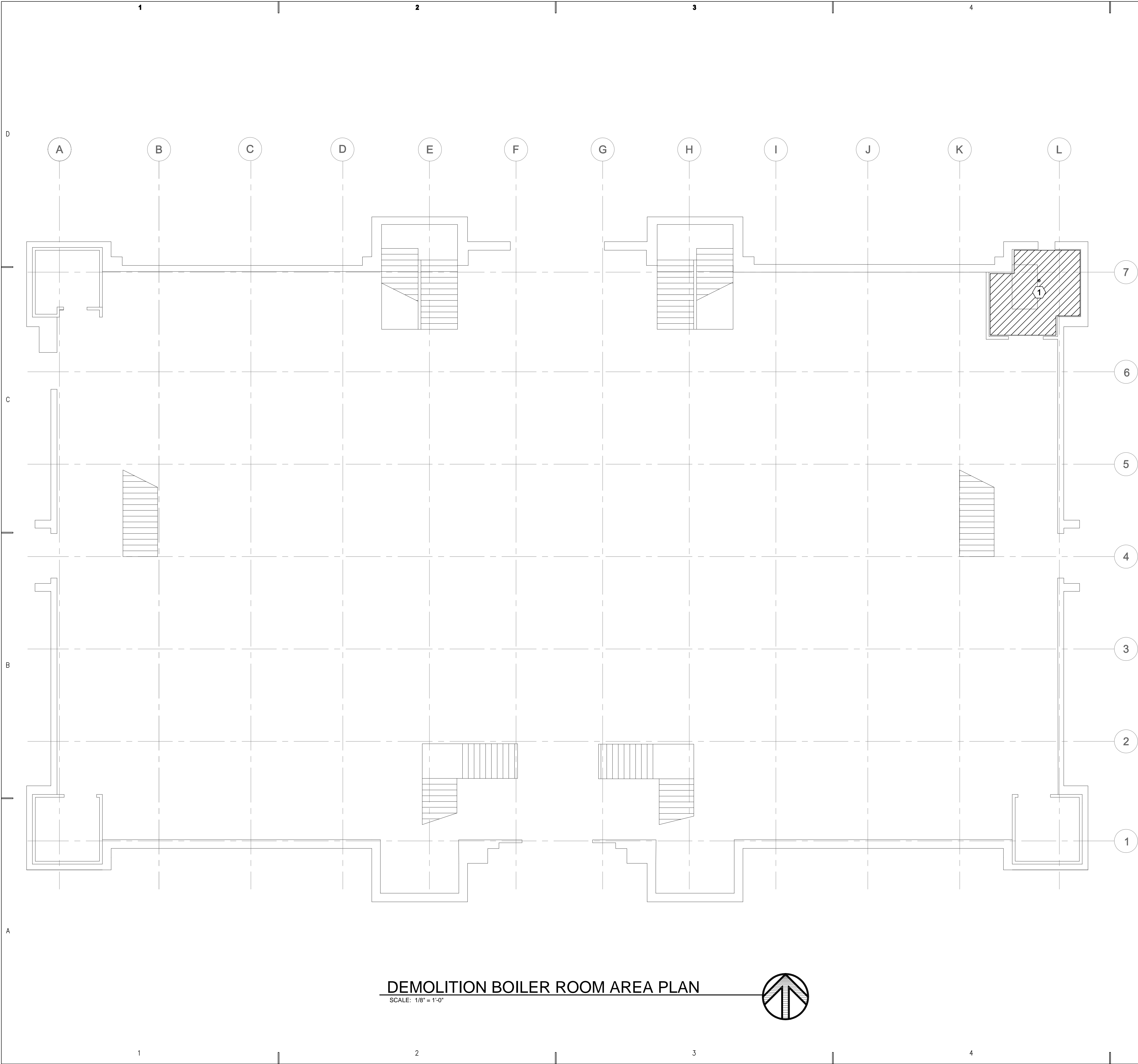
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GENERAL NOTES AND
LEGENDS

SHEET NO.
M001



SHEET NOTES

1

SEE LARGE SCALE PLAN MD401 FOR THIS AREA.

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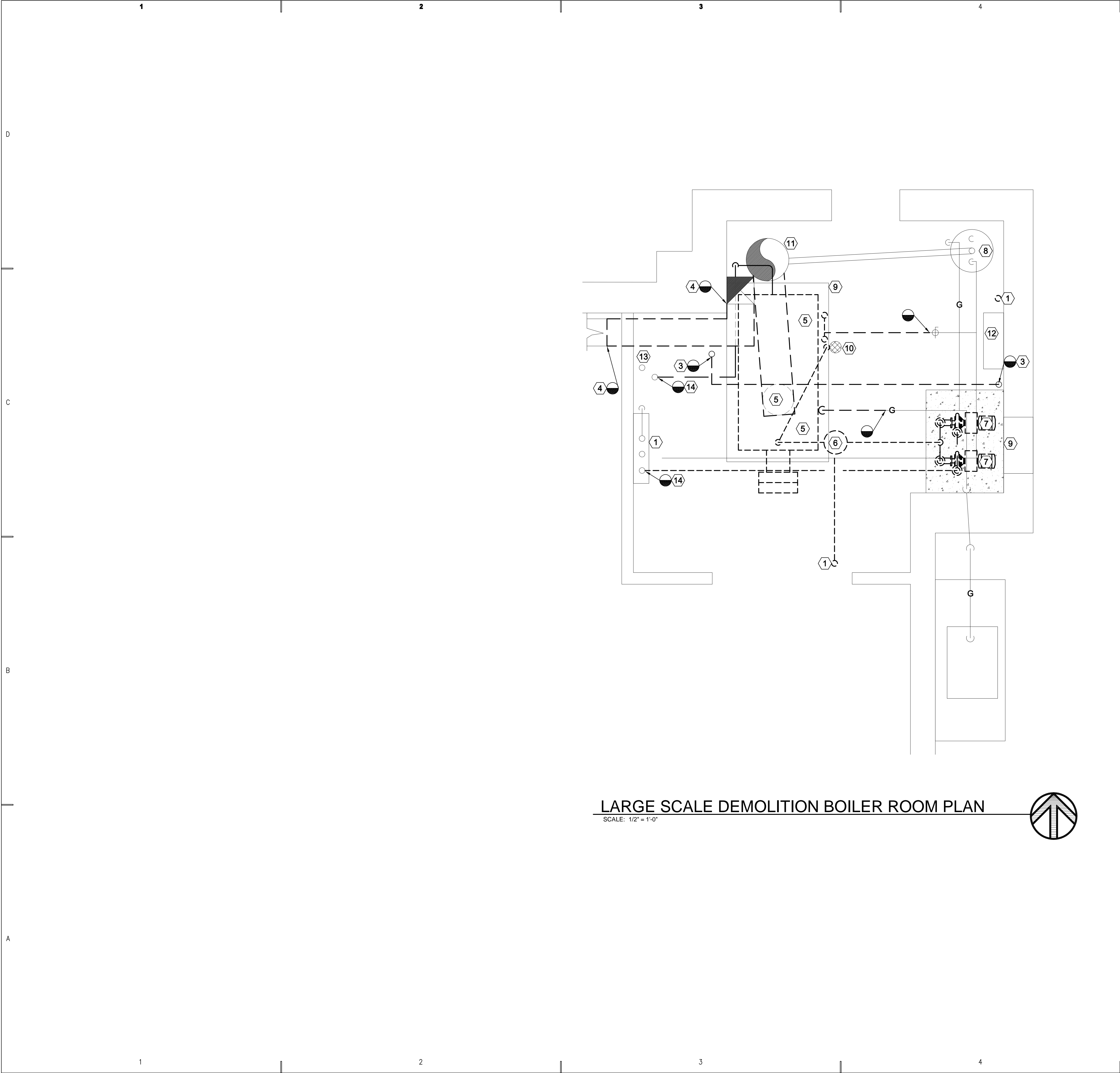
PROFESSIONAL ENGINEER
08/23/07
WINWARD M.
PACKER
No. 375080
STATE OF UTAH

SHEET TITLE

**DEMOLITION BOILER
ROOM AREA PLAN**

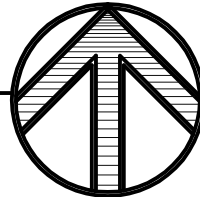
SHEET NO.

MD101



LARGE SCALE DEMOLITION BOILER ROOM PLAN

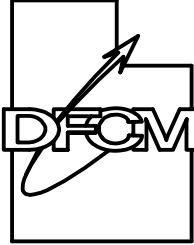
SCALE: 1/2" = 1'-0"



SHEET NOTES

- 1 REMOVE EXISTING PIPING TO COMPRESSION TANK ON ABOVE LEVEL. REMOVE COMPRESSION TANK AND ACCESSORIES..
- 2 EXISTING PRV STATION TO REMAIN.
- 3 REMOVE VENT PIPING FROM FLOOR DRAIN BACK TO THIS POINT LEAVE STUB OUT AT FLOOR ABOVE CLEAN OUT AND AT CEILING. CAP STUB-OUT AT CEILING.
- 4 REMOVE THIS SECTION OF EXHAUST DUCT.
- 5 REMOVE EXISTING BOILER, HORIZONTAL FLUE, ELECTRICAL CONNECTIONS, CONTROLS, AND ALL ASSOCIATED COMPONENTS. .
- 6 REMOVE EXISTING AIR SEPARATOR AND ALL ASSOCIATED HOT WATER PIPING IN BOILER ROOM.
- 7 REMOVE EXISTING PUMPS, AND ASSOCIATED PIPING, ELECTRICAL, ETC.
- 8 EXISTING WATER HEATER AND ASSOCIATED DOMESTIC WATER PIPING SHALL REMAIN.
- 9 EXISTING CONCRETE BOILER AND PUMP PAD SHALL REMAIN.
- 10 EXISTING FLOOR DRAIN SHALL REMAIN. PROTECT FOR RE-USE.
- 11 EXISTING FLUE THROUGH THE ROOF SHALL REMAIN.
- 12 EXISTING ELECTRICAL EQUIPMENT, CONTROL PANELS, ETC. SHALL REMAIN.
- 13 EXISTING FIRE RISER SHALL REMAIN.
- 14 EXISTING HOT WATER SUPPLY AND RETURN RISERS SHALL REMAIN.

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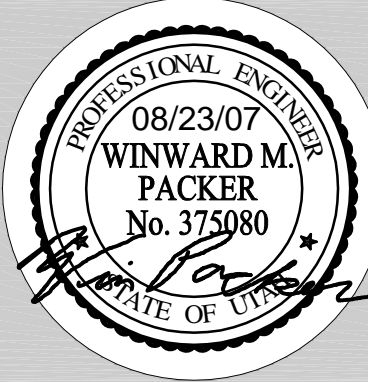
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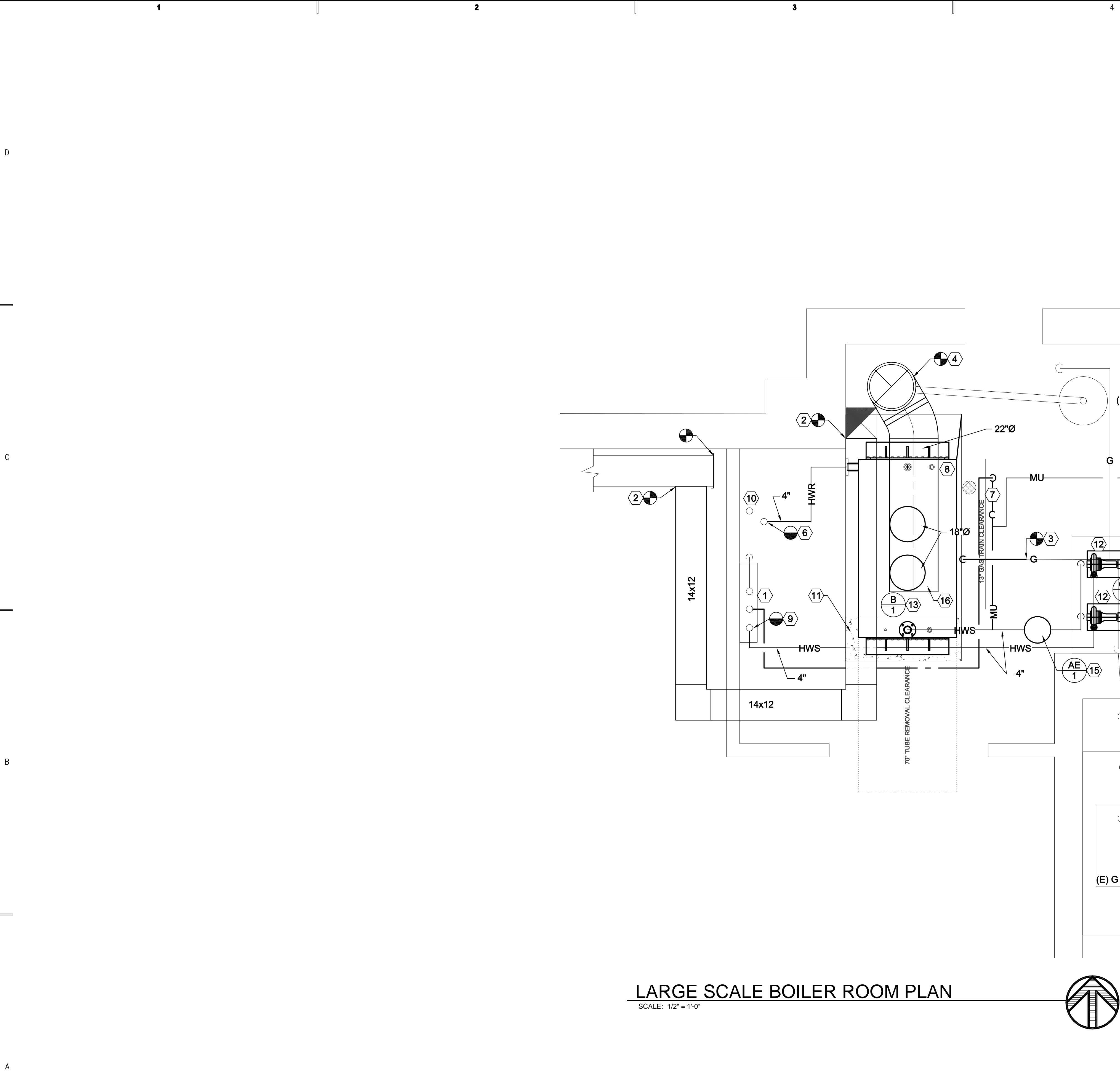


SHEET TITLE

**LARGE SCALE
DEMOLITION BOILER AND
SECTION PLAN**

SHEET NO.

MD401



LARGE SCALE BOILER ROOM PLAN

SCALE: 1/2" = 1'-0"

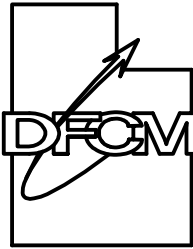
SHEET NOTES

- 1 ADD AIR ADMITANCE VALVE TO PLUMBING VENT FROM EXISTING FLOOR DRAIN 1-1/2" VENT. FIELD VERIFY EXACT SIZE AND LOCATION.
- 2 REROUTE EXHAUST DUCT AS SHOWN. FIELD VERIFY EXACT ROUTING WITH EXISTING CONDITIONS.
- 3 CONNECT TO EXISTING GAS LINE AT THIS APPROXIMATE LOCATION. FIELD VERIFY EXACT SIZE AND LOCATION.
- 4 RECONNECT FLUE TO EXISTING STACK.
- 5 SUSPEND NEW HORIZONTAL BLADDER TYPE EXPANSION TANK FROM STRUCTURE IN THIS APPROXIMATE LOCATION. FIELD VERIFY EXACT CONDITIONS AND SPACE CONSTRAINTS.
- 6 HOT WATER RETURN FROM BUILDING. CONNECT TO EXISTING. FIELD VERIFY EXACT POINT OF CONNECTION.
- 7 PROVIDE MAKE-UP WATER PRV PER DETAIL AND FLOW SHEET. PROVIDE FLOOR MOUNTED UNISTRUT STAND FOR MAKE-UP WATER PRV STATION.
- 8 PROVIDE BOILER SAFETY RELIEF, AND PIPE TO FLOOR DRAIN WITH NO MORE THAN 1 ELBOW.
- 9 TIE INTO EXISTING HOT WATER SUPPLY RISER. FIELD VERIFY EXACT LOCATION.
- 10 EXISTING FIRE RISER SHALL REMAIN.
- 11 PROVIDE NEW 6" CONCRETE HOUSEKEEPING PAD EXTENSION. ANCHOR TO EXISTING SLAB.
- 12 PROVIDE NEW BASE-MOUNTED HOT WATER PUMPS. ATC CONTRACTOR SHALL HIRE A LICENSED ELECTRICIAN TO REPLACE EXISTING STARTERS, AND RE-CONNECT EXISTING ELECTRICAL COMPONENTS AS NECESSARY.
- 13 PROVIDE NEW BOILER AND FLUE. MOUNT ON CONCRETE PAD. CONNECT NEW HORIZONTAL FLUE TO EXISTING STACK.
- 14 PROVIDE NEW CHEMICAL POT FEEDER. SEE DETAIL.
- 15 PROVIDE NEW AIR SEPARATOR. SEE DETAIL.
- 16 PROVIDE BAROMETRIC DAMPER AT FLUE.

GENERAL NOTES:

- 1. FIELD VERIFY ALL EXISTING CONDITIONS, ROOM DIMENSIONS, ETC. PRIOR ORDERING OR FABRICATING.
- 2. PROVIDE PVC INSULATION JACKET ON ALL PIPING WITHIN 8' AFF, OR WHERE OTHERWISE SUSCEPTIBLE TO DAMAGE.

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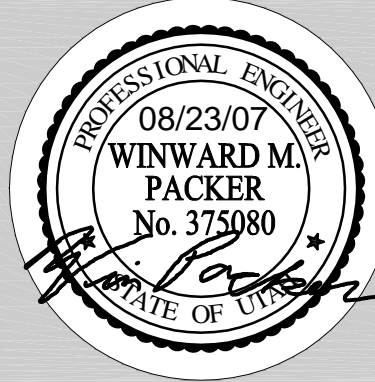
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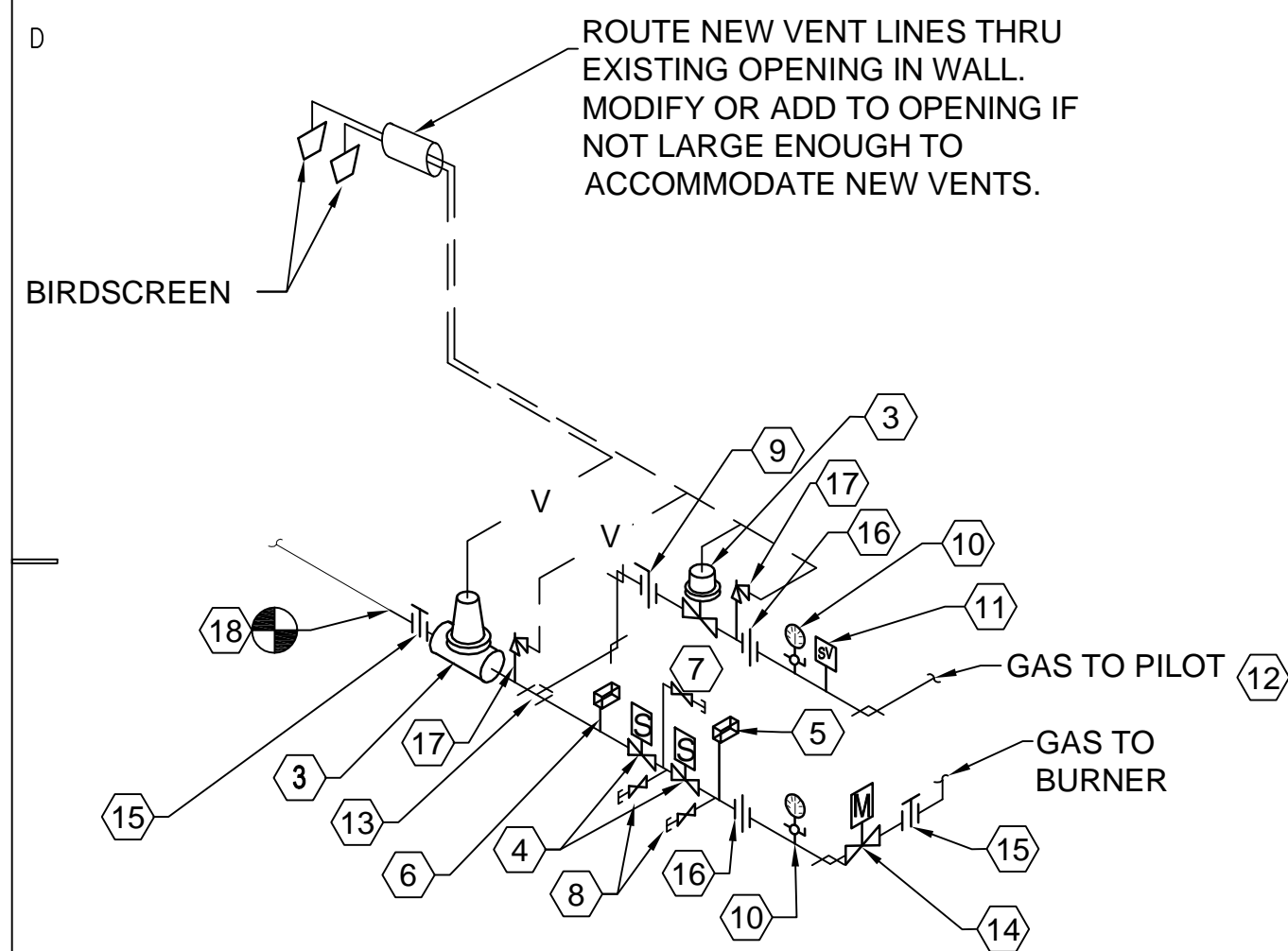
LARGE SCALE BOILER
ROOM PLAN

SHEET NO.

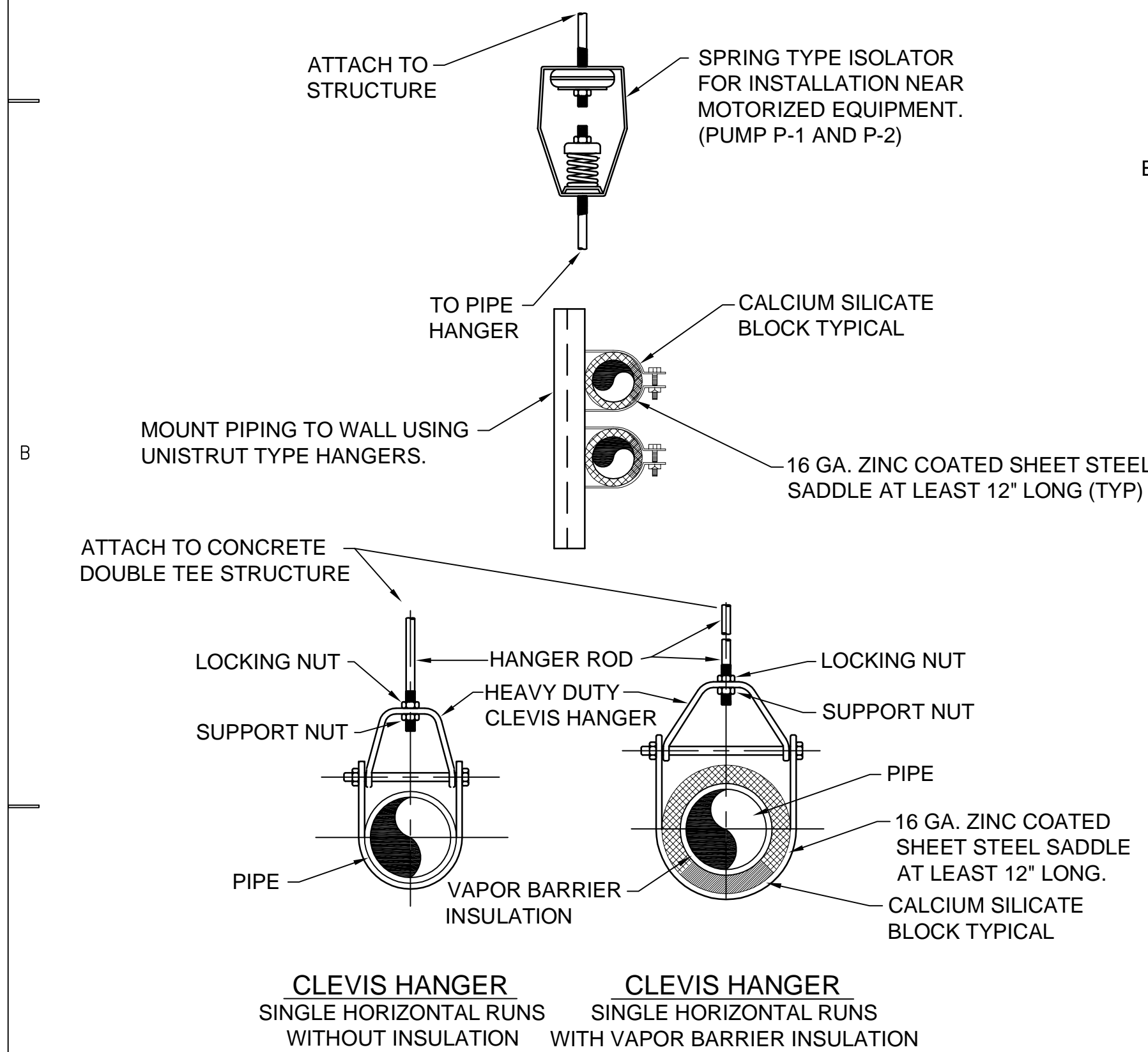
ME401



D
C
B
A

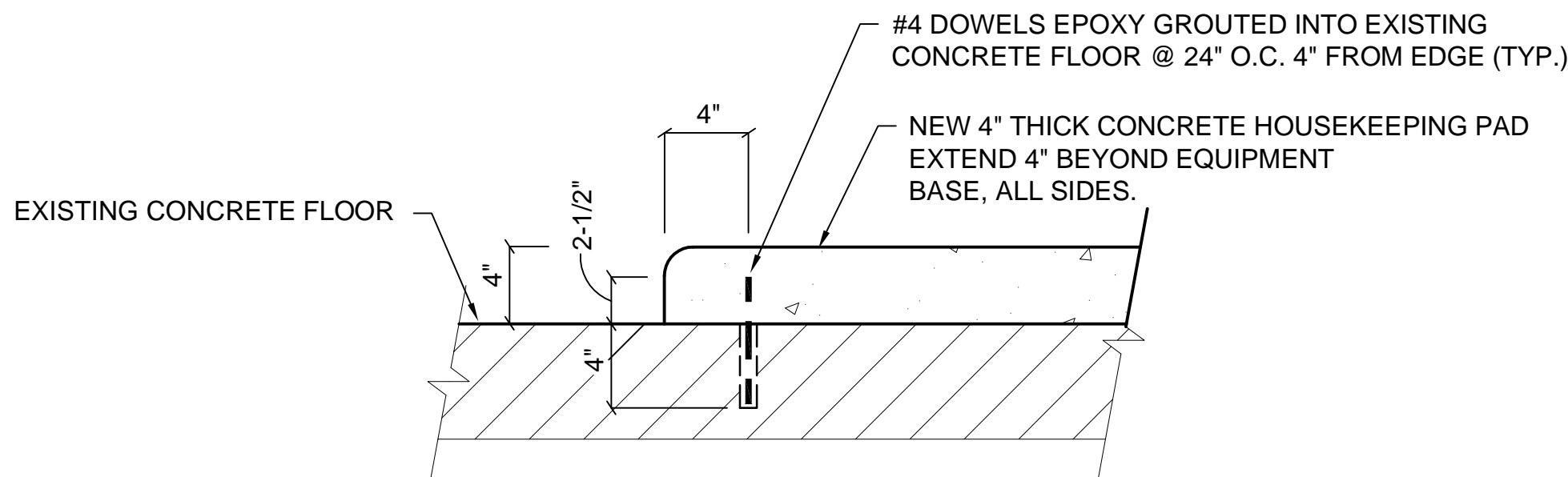


C1 CSD-1 AUTO-IGNITION GAS TRAIN DETAIL
SCALE: NONE

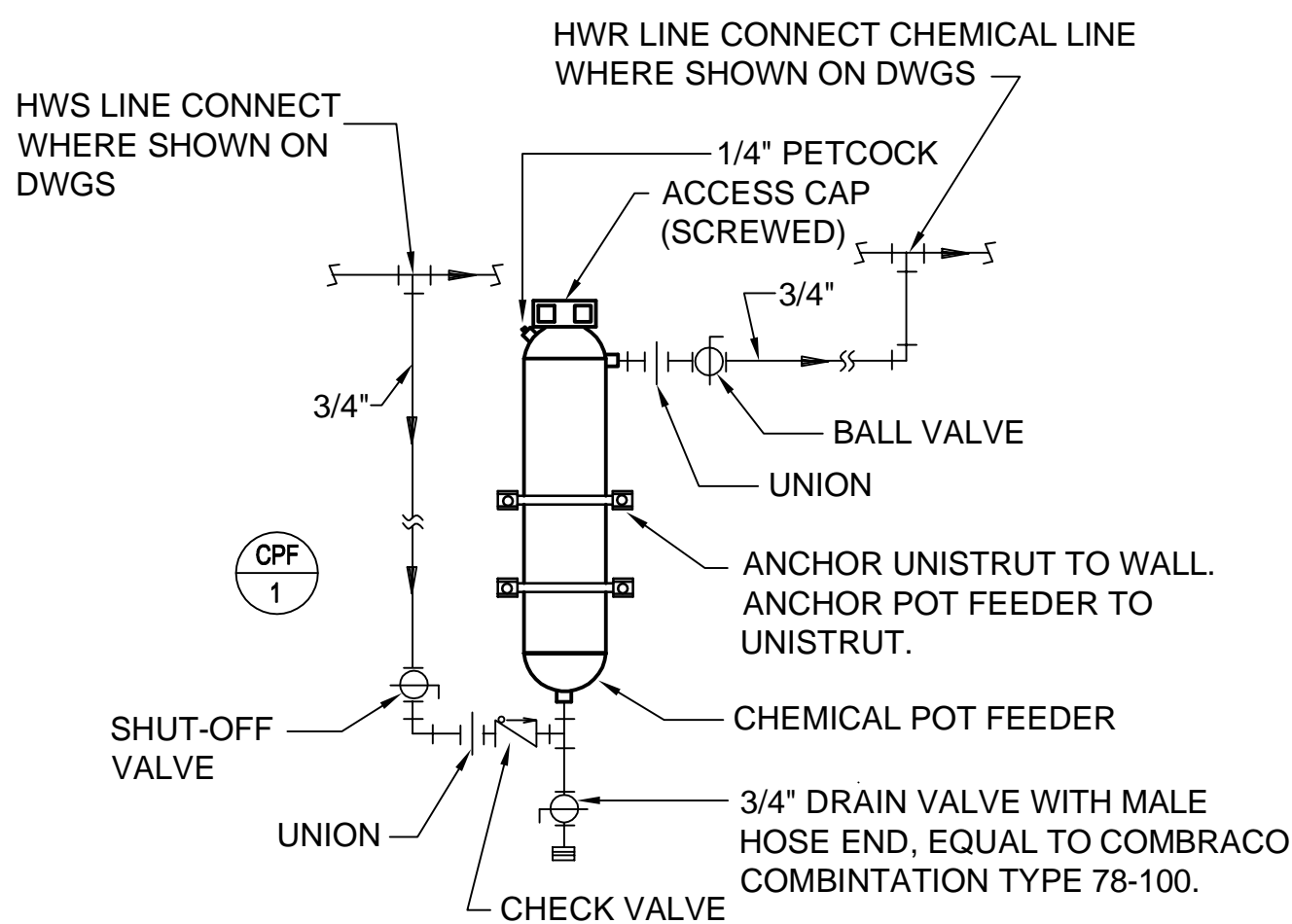


A1 PIPE HANGER DETAIL
SCALE: NONE

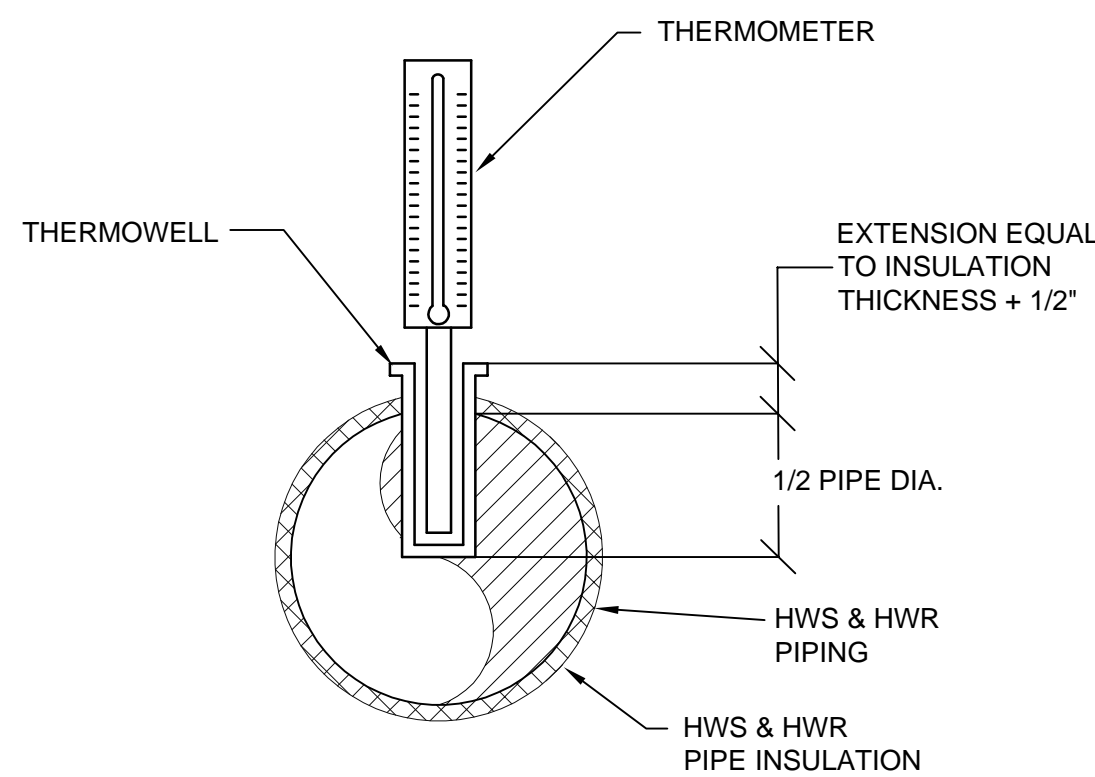
LEGEND	
NO.	ITEM
1	GAS INLET
2	SUPPORT GAS TRAIN FROM PAD OR FLOOR
3	GAS PRESSURE REGULATOR
4	MOTORIZED SAFETY VALVE
5	HIGH PRESSURE SWITCH
6	LOW PRESSURE SWITCH
7	VENT VALVE AND VENT
8	TEST COCK
9	SHUT-OFF COCK
10	PRESSURE GUAGE
11	SOLENOID VALVE
12	GAS TO PILOT
13	GAS TAKE-OFF TO PILOT
14	MOTORIZED MODULATING VALVE
15	SHUT-OFF VALVE
16	UNION
17	RELIEF VALVE-VENT TO ATMOSPHERE
18	CONNECT TO EXISTING GAS LINE THIS LOCATION. SEE SHEET MP401. FIELD VERIFY EXACT LOCATION.



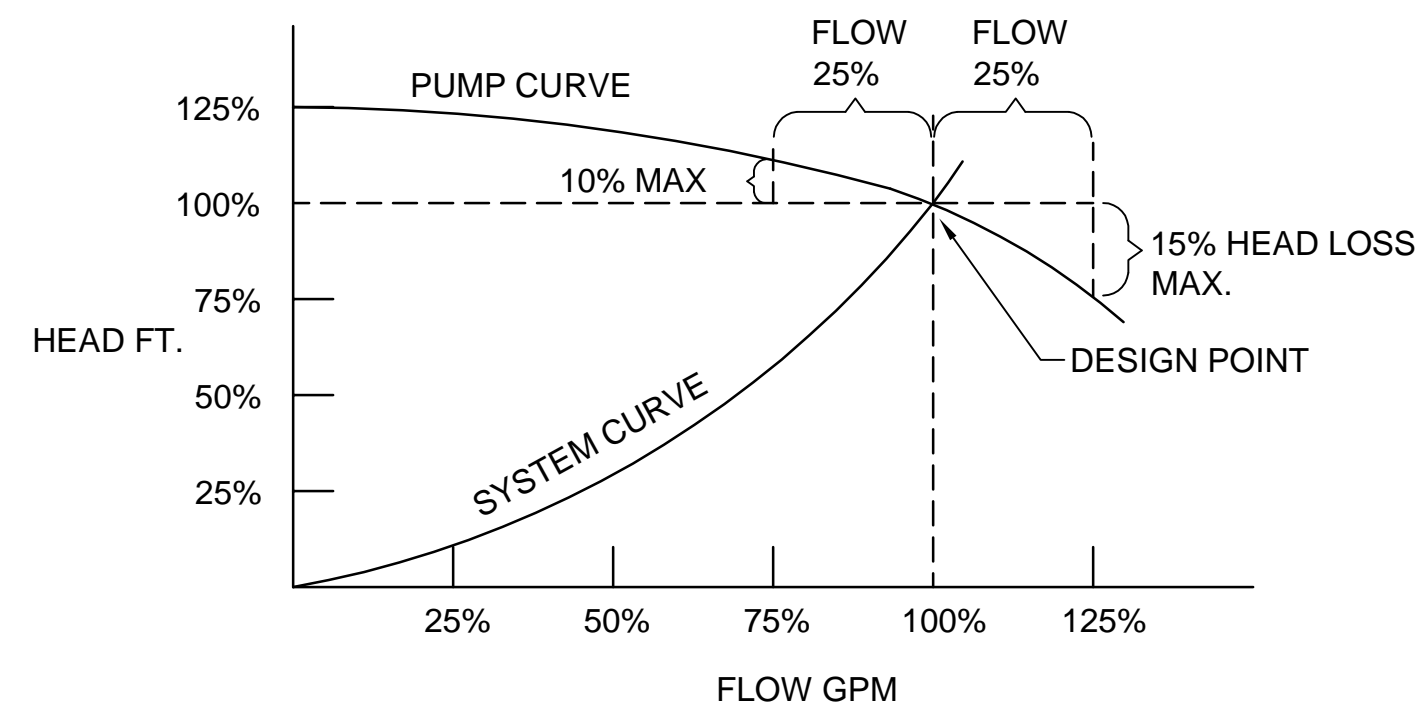
B2 HOUSEKEEPING PAD DETAIL
SCALE: NONE



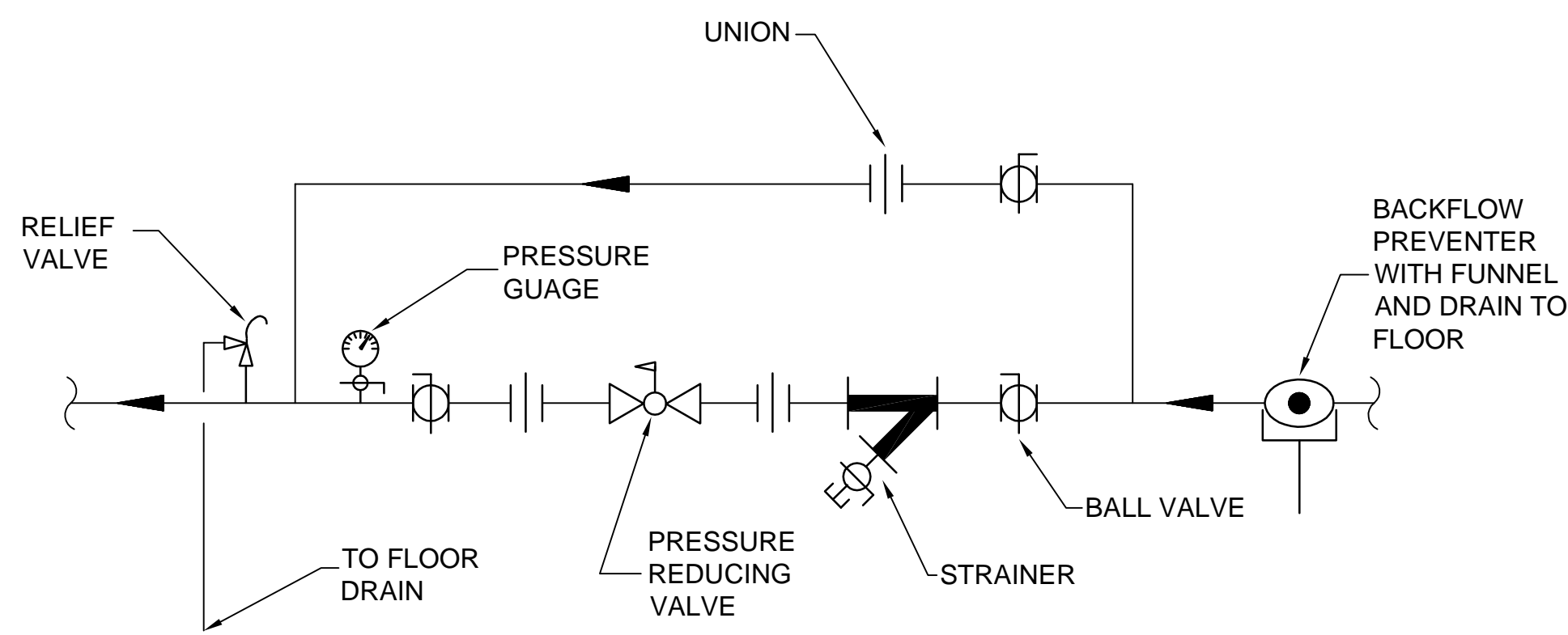
A2 CHEMICAL POT FEEDER AND PIPING DETAIL
SCALE: NONE



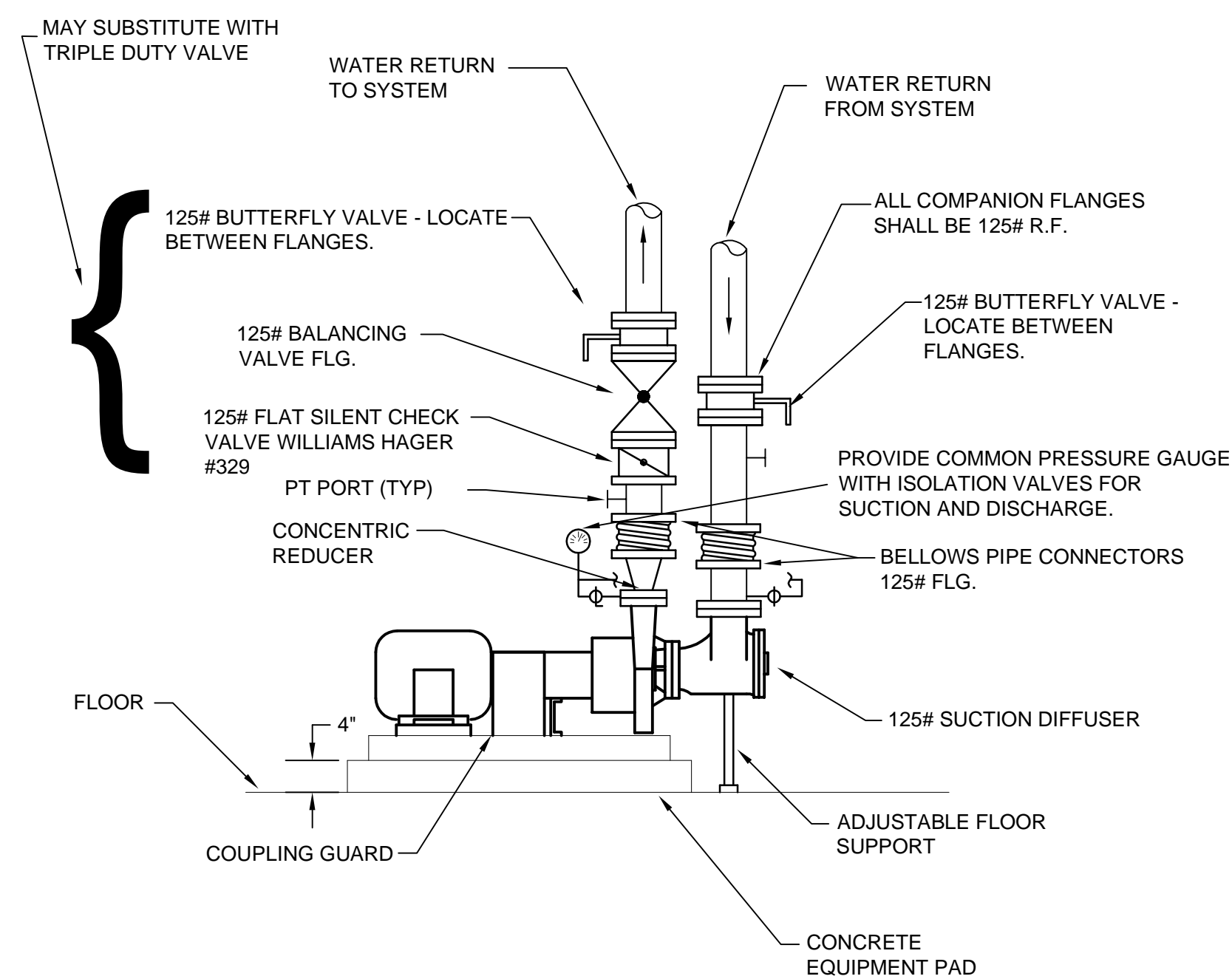
C3 THERMOWELL DETAIL
SCALE: NONE



C4 PUMP CURVE DETAIL
SCALE: NONE



B4 MAKE-UP WATER PRV
SCALE: NONE



A4 BASE MTD. PUMP PIPING DETAIL
SCALE: NONE

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SHEET TITLE

PROFESSIONAL ENGINEER
08/23/07
WINWARD M. PACKER
No. 375080
STATE OF UTAH

MECHANICAL DETAILS

SHEET NO.
ME501

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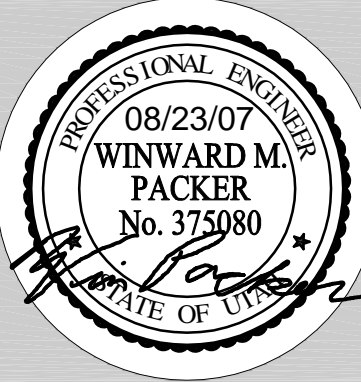
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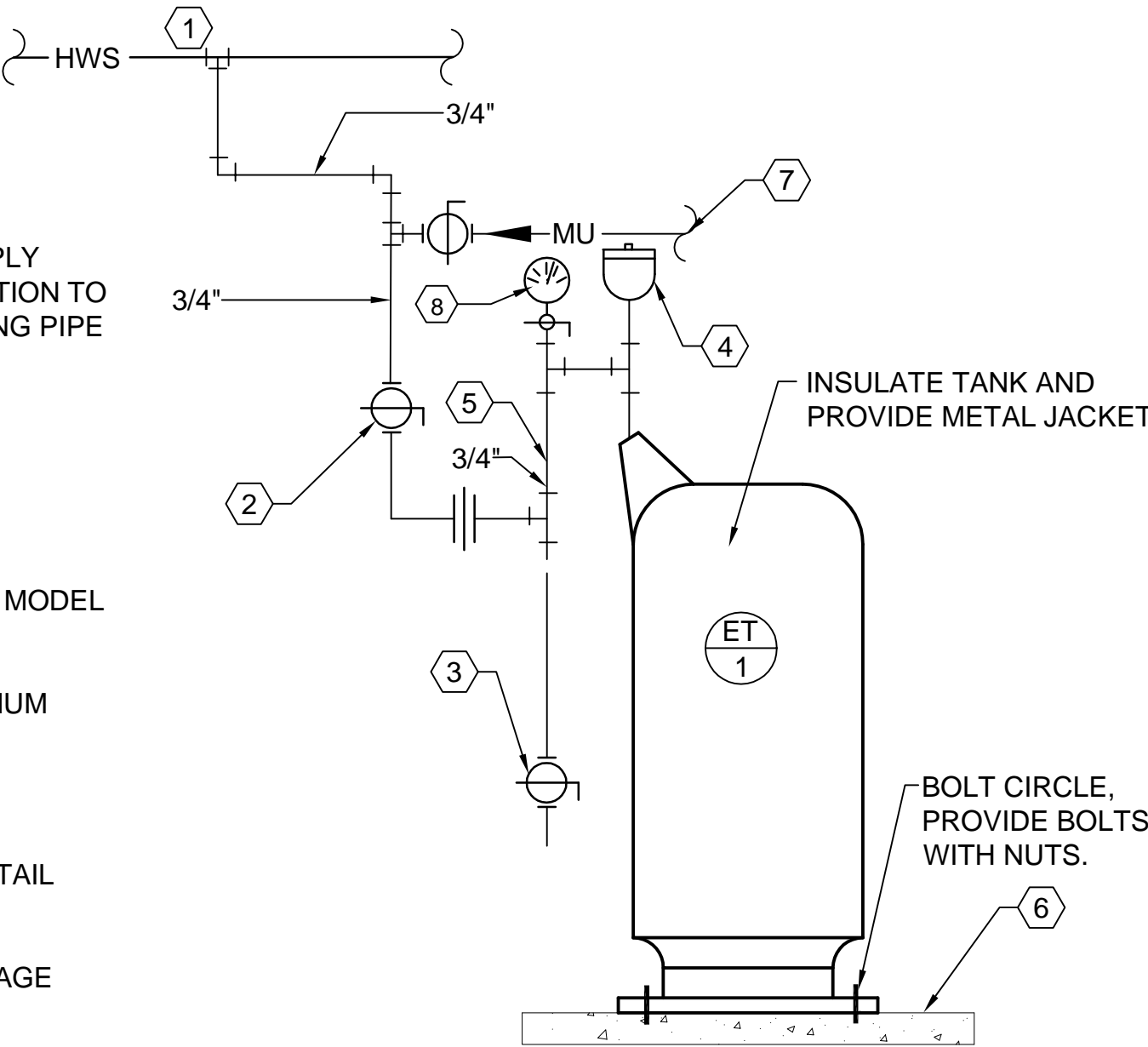
MECHANICAL DETAILS

SHEET NO.

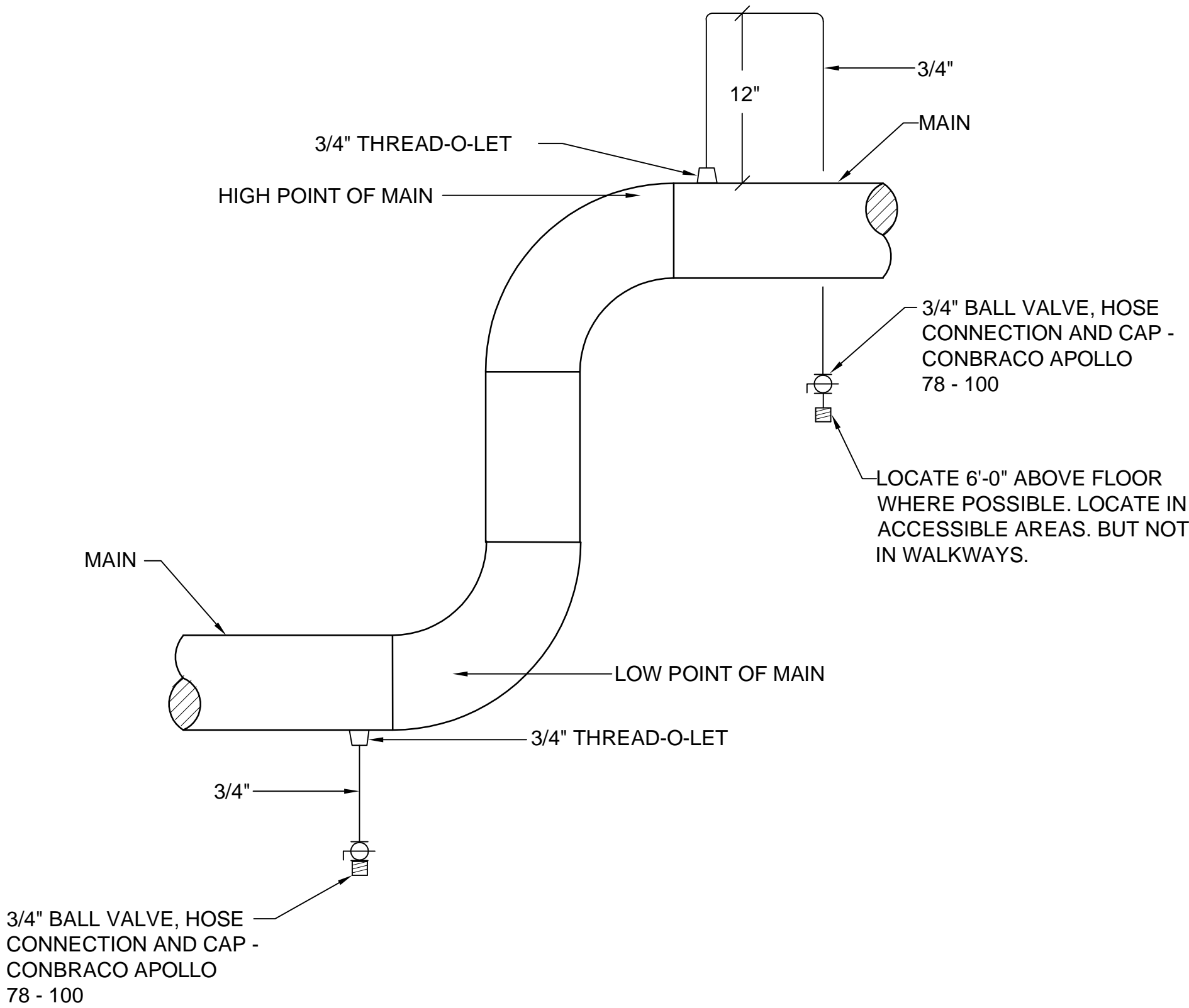
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DETAIL NOTES:

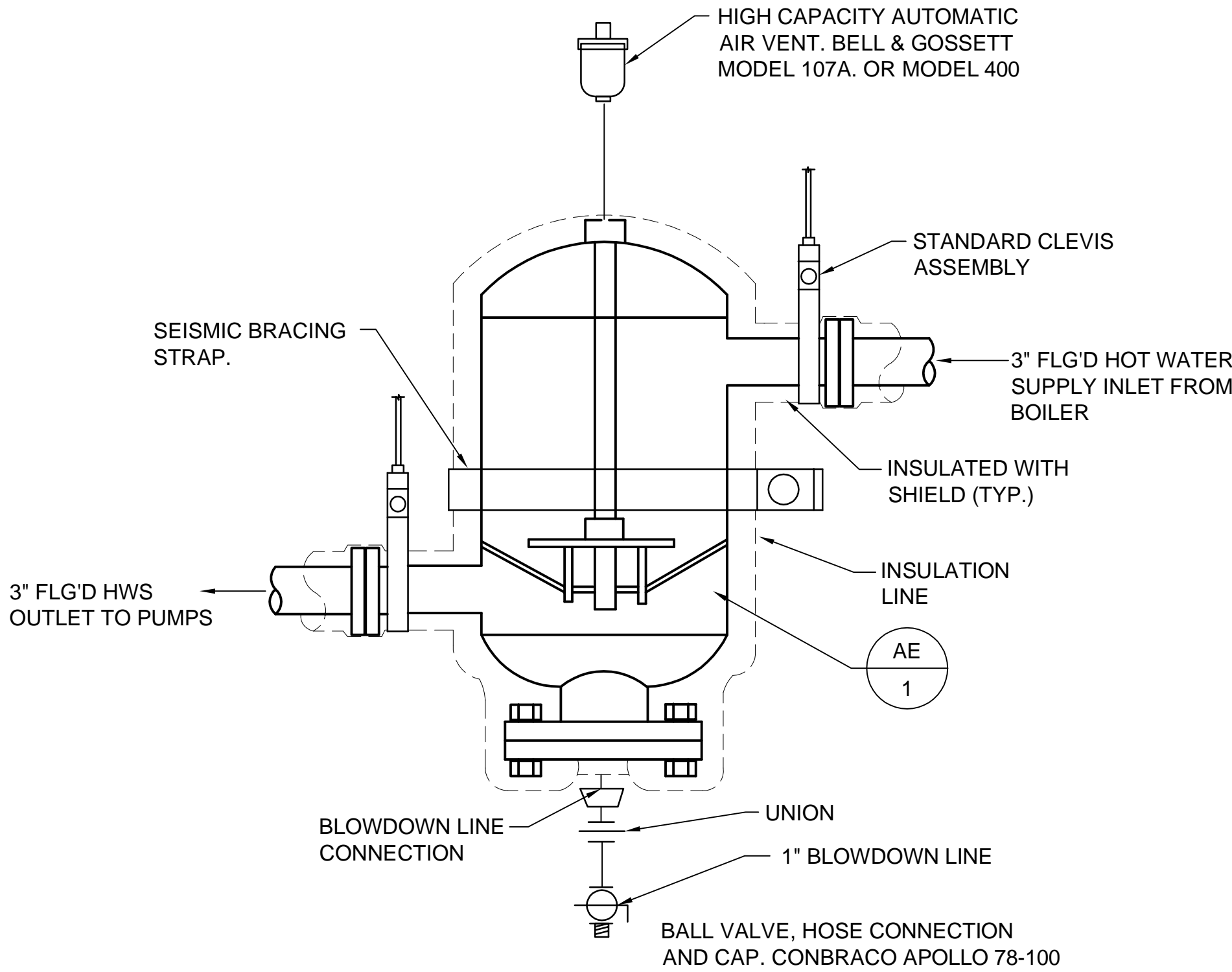
- 1
- CONNECT TO SIDE OF HOT WATER SUPPLY MAIN. AVOID TOP OR BOTTOM CONNECTION TO PREVENT AIR OR DEBRIS FROM ENTERING PIPE TO TANK.
- 2
- SHUT OFF BALL VALVE. REQUIRED TO PROPERLY PRECHARGE TANK.
- 3
- DRAIN VALVE.
- 4
- AUTOMATIC AIR VENT. BELL & GOSSETT MODEL #7 OR #87.
- 5
- ANTI-THERMO-SYPHON LOOP. 12" MINIMUM DROP.
- 6
- NEW HOUSEKEEPING PAD SEE DETAIL.
- 7
- NEW 3/4" MAKE-UP WATER LINE. SEE DETAIL C4/MP502.
- 8
- PRESSURE GUAGE -O- 60 PSIG WITH GUAGE COCK.



C4 EXPANSION TANK DETAIL
SCALE: NONE




A2 MANUAL AIR VENT AND DRAIN DETAIL
SCALE: NONE



A4 AIR ELIMINATOR TANK DETAIL
SCALE: NONE

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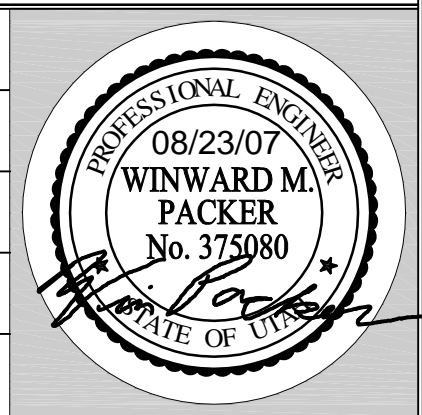
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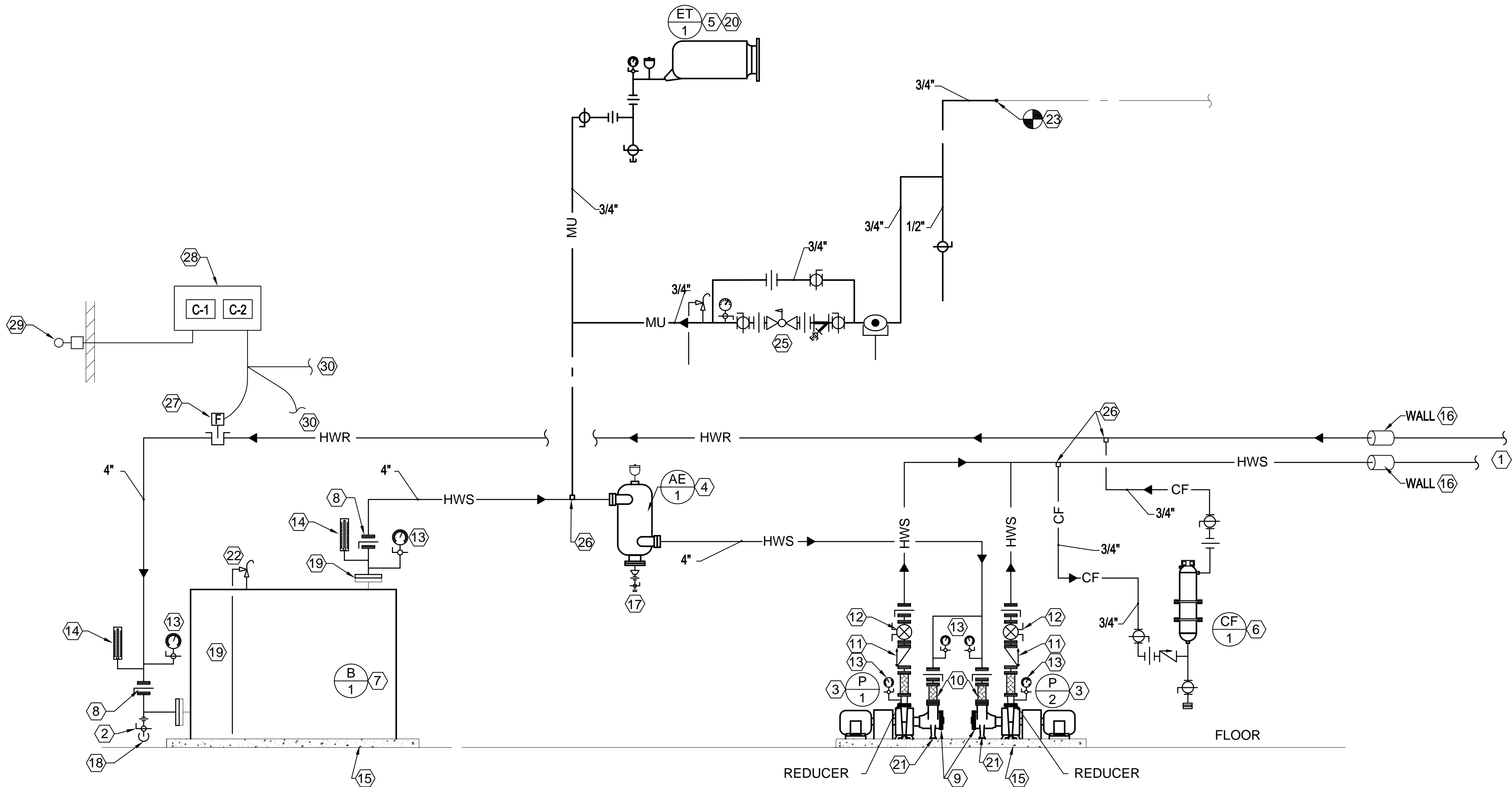
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SHEET TITLE
MECHANICAL SCHEDULES



NEW HOT WATER FLOW SHEET
NO SCALE

- SHEET NOTES:**
- NEW 2-1/2" HWS AND HWR TO NEW VAV BOXES IN BUILDING.
 - BALL VALVE.
 - NEW BASE MOUNTED END SUCTION HOT WATER PUMPS.
 - NEW AIR ELIMINATOR. SEE DETAIL.
 - NEW EXPANSION TANK. SEE DETAIL.
 - CHEMICAL POT FEEDER. INSTALL PER DETAIL, AND WATER TREATMENT CONTRACTOR'S RECOMMENDATIONS.
 - PROVIDE NEW BOILER. INSTALL PER MANUFACTURER'S RECOMMENDATIONS.
 - FLANGED BUTTERFLY VALVE.
 - 2-1/2"x2" PUMP SUCTION DIFFUSER WITH FLOOR SUPPORT.
 - 2-1/2" FLEX PUMP CONNECTORS. TYPICAL OF 4.
 - 2-1/2" WAFER TYPE CHECK VALVE. TYPICAL OF 2.
 - 2-1/2" BALANCING VALVE. TYPICAL OF 2.
 - PRESSURE GAUGE WITH SNUBBER AND SHUT OFF VALVE 0 TO 150 PSIG.
 - THERMOMETERS 0° TO 250° F.
 - PROVIDE NEW 4" HIGH CONCRETE PAD. SEE DETAIL.
 - PROVIDE NEW WALL OPENINGS WITH WALL SLEEVES FOR THE NEW PIPING.
 - 1" DRAIN FROM AIR ELIMINATOR. COMPLETE WITH COMBRACO SHUT OFF WITH HOSE CONNECTION AND CAP.
 - DRAIN PIPING BEHIND BOILER
 - CONNECT PIPING TO BOILER PER MANUFACTURER'S RECOMMENDATIONS.
 - SECURE EXPANSION TANK IN EXISTING LOCATION. SEE ME401.
 - FLOOR SUPPORTS.
 - PROVIDE BOILER SAFETY RELIEF VALVE. ROUTE DISCHARGE PIPING TO FLOOR SO IT ONLY CONTAINS ONE 90° ELBOW.
 - PROVIDE 3/4" MAKE UP WATER LINE. TIE INTO EXISTING WATER PIPING. FIELD VERIFY EXACT SIZE AND LOCATION.
 - 1/2" HOSE BIBB WITH SCREW-ON VACUUM BREAKER. MOUNT ON WALL.
 - PRV STATION FOR MAKE-UP WATER TO HOT WATER SYSTEM. SEE DETAIL. PROVIDE UNISTRUT FLOOR STAND.
 - 3/4" THRED-O-LET.
 - FLOW SWITCH BY ATC.
 - NEW CONTROL PANEL WITH 2 NEW TEMP. CONTROLLERS BY ATC. 1ST CONTROLLER STARTS LEAD PUMP ON OSA ≤ 60°F (ADJUSTABLE) AND STARTS BOILER AFTER PROOF OF FLOW. 2ND CONTROLLER STARTS LAG PUMP ON OSA ≤ 32°F (ADJUSTABLE).
 - OSA SENSOR BY ATC.
 - CONTROL WIRING TO BOILER, AND PUMPS.

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PROJECT NAME & ADDRESS

**UTAH STATE
FAIRPARK GRAND
BUILDING BOILER
REPLACEMENT**

DFCM No. 07190370

SALT LAKE CITY, Utah

MARK	DATE	REVISION

PROJECT MANAGER:
WP

DRAWN BY:
CI

CHECKED BY:
SLW

DATE:
08/23/07

WHW JOB NO:
07022

PROFESSIONAL ENGINEER
08/23/07
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MECHANICAL FLOW SHEET

SHEET NO.
ME701